Archeological Sites in NPS Units Affected by Hurricane Katrina
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20 September 2005

This short report provides background information for planning assessments and stabilization activities regarding possible damage to archeological sites at parks affected by Hurricane Katrina. The parks are: EVER, DRTO, GUIS, and JELA. JAZZ also was affected but no archeological sites are reported from that NPS unit.

We know the number of sites within each park and we have a general summary of the types of sites and the most recently reported site condition (see below for details). We will not know precisely what effect the hurricane winds, rain, or storm surge may have had on specific sites until on-site inspections can be conducted by NPS archeologists. At present, access to these units is controlled by an Incident Management Team which must request any inspection or study and also deal with bio-hazards.

When inspections of archeological site areas are possible, archeologists from the Southeast Archeological Center (SEAC), who are most familiar with these park units should be able to carry out the work. Inspections of underwater archeological site should be carried out the NPS archeologists from the NPS Submerged Resources Center. Funds will be needed for such investigations.

Using cost estimates from a national study of archeological site conditions conducted in 2001 and 2002, the average cost for a field investigation of site condition in the Southeast was $516 per site. This figure is based on the GS hourly wage for Step 3 using the 2002 pay scale without locality adjustment. If it is determined that all 400 sites at the four parks must be visited and assessed, the **minimum** cost is $206,400. More specific estimates compiled by SEAC staff taking into account the remoteness of certain sites and more specific logistical requirements are: EVER (229 sites): $254,562; GUIS (78 sites): $33,648; and, JELA (58 sites): $43,041.

Site inspections will need to be done for sites in each of these parks that have been affected by the hurricane. In addition to describing the condition of the site, the inspection should include an estimate for any additional documentation and stabilization work necessary to prevent further damage to the site due to erosion caused or worsened by the hurricane. Costs for such documentation and stabilization will depend on the extent of damage, the ease with which the site can be reached for subsequent stabilization work, and the extent of stabilization that is needed. [NOTE: NPS staff can access documents that provide some guidance on conducting archeological site condition assessments on the NPS intranet system, InsideNPS, at: InsideNPS>WASO>Cultural Resources>Park Cultural Resources Programs>Archeology>ASMIS.

In general, we can expect the following kinds of damage to certain kinds of archeological site types in the park units affected by the hurricane:

- Tree-throws: In the Southeast, large trees often grow preferentially into archeological sites because of the higher organic content of their soils as compared to surrounding soils. It is the tree roots that can be especially damaging since they spread through portions of sites. We can expect this kind of hurricane damage at JELA, EVER, and GUIS. If a tree is uprooted by hurricane winds, the archeological stratigraphy is disturbed and the artifacts embedded in the affected portion of the site are scattered. Careful documentation of the site stratigraphy around the edge of a tree-throw and collection of artifacts dislodged from the site can recover much of the information in such situations, as long as the inspection is done soon after the event. Following documentation, delineation of the disturbed area so it can be distinguished in the future from *in situ* deposits, and careful backfilling will stabilize the disturbed area to effectively prevent further damage and erosion. These actions will help return the site to "good" condition.

- Storm surge scouring and erosion: In particular, on the bay side of the GUIS units, around the base of mound sites in the cypress swamps of EVER, and at the base of earthworks in JELA at Chalmette, erosion of archeological deposits may have occurred. Once pooled water has receded and bio-hazards removed, site areas should be inspected for signs of eroding archeological deposits. Documentation of any eroding artifacts and recording of stratigraphic information should be done. Plans for stabilization measures to cover eroding areas and prevent further damage should be made and executed to return the site to "good" condition.

- Seabed shifting and new current patterns: Submerged sites, in particular shipwrecks, might be disturbed by extreme subsurface ocean currents or water displacement events associated with hurricanes. This may have been an affect of the hurricane at DRTO where shipwrecks are documented. Shifts in sandbanks and movement of other materials on the ocean floor can affect local currents and uncover previously protected shipwreck sites or portions of sites. Such sites should be inspected and documented. If new erosion is detected, plans for stabilization measures and the execution of these measures should be undertaken.

Sources of Technical Information about the Stabilization of Archeological Sites is Available on the NPS Archeology Program website, <www.cr.nps.gov/archeology/PUBS/TECHBR>.

- Filter Fabric: A Technique for Short-term Site Stabilization. Robert M. Thorne, 1988
- Intentional Site Burial: A Technique to Protect Against Natural or Mechanical Loss. Robert M. Thorne, 1989.
- Revegetation: The Soft Approach to Archeological Site Stabilization. Robert M. Thorne, 1990.
- Site Stabilization Information Sources. Robert M. Thorne, 1991.
- Protecting Archeological Sites on Eroding Shorelines: A Hay Bales Approach. Robert M. Thorne, 2004.

Current Data from the Archeological Sites Management Information System (ASMIS)

EVER: 229 archeological sites

Condition: Good: 37, Fair: 3, Poor: 0; Unknown/No data: 189

Cultural History: Historic: 76; Prehistoric: 221; Protohistoric: 19; (68 sites that are both historic and prehistoric)

Site Type (24 sites with 2 or more values):

- Artifact Scatter: 1
- Domestic habitation: 2
- Funerary/Mortuary. Burial mound: 3
- Funerary/Mortuary. Burial grave: 2
- Mound, Earthen: 2
- Mound, Shell: 14
- Other: 2
- Midden, earth: 71
- Midden, shell: 37
- Midden: 3
- Storage/Holding, facility: 2
- Transportation, canal: 2
- Undetermined: 113

National Register Status: Determined Eligible: 1; Determined Ineligible: 1; Nominated: 137; Unevaluated: 90

Known Disturbances: Agricultural Practices 1; Animals: 1; Campfire Building: 2; Flooding or Inundation: 2; Natural Forces - General: 6; Tenants/Occupants: 10; Theft or Looting: 2; Vegetation Growth: 1; Visitor Use/Visitation – General: 6

DRTO: 31 archeological sites

Condition: Unknown/No data: 31

Cultural History: historic: 31

Site Type (2 sites with 2 or more values):

- Lighthouse: 2
- Military, facility: 6
- Military, fortification: 1
- Research facility: 1
- Storage/Holding, facility: 1

Shipwreck: 28

National Register Status: Listed/Documented: 3; Unevaluated: 28

GUIS : 82 archeological sites

Condition: Good: 68, Fair: 13, Poor: 1

Cultural History: Historic: 46; Prehistoric: 38; (3 sites that are both historic and prehistoric)

Site Type (10 sites with 2 or more values):

Borrow pit: 1
CCC Camp: 1
Cemetery: 4
Commercial, facility: 1
Defense, fortifications and barracks: 5
Domestic, habitation: 34
Dump: 1
Hospital: 1
Midden: 3
Military, facility: 3
Military, fortification: 29
Mound, earthen: 4
Other: 5
Recreational, facility: 3
Storage/Holding, facility: 2
Transportation, ship, rail, or road: 11
Wellhouse/pumphouse: 1

National Register Status: Determined Eligible: 23; Listed/Documented: 5; Nominated: 1; Unevaluated: 52

Known Disturbances: Dumping: 1; Natural Forces: 13;

Known Threats: Erosion – General: 1; Road or Highway – Construct/Operate: 1

JELA: 58 archeological sites

Condition: Good: 21, Fair: 7, Poor: 12, Unknown/No data: 18

Cultural History: Both prehistoric and historic period sites. Some are multi-component.

Site Type:

Midden, shell - 45
Mound, Earth/Earthwork - 2
Mound, Shell - 1
Other - 1
Spoil/Slump/Waterborne deposit - 1
Undetermined - 7